EUROPEAN PATENT APPLICATION

(12)

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(54) Compressed prefix matching database searching.

(57) Aspects of the invention include a method of conducting a reduced length search along a search path. A node which would otherwise occur between a previous and a following node in the search path is eliminated, and information is stored as to whether, had said eliminated node been present, the search would have proceeded to the following node. During the search, a search argument is compared with the stored information, and the search effectively progresses from the previous node directly to the following node if the comparison is positive. In preferred embodiments, some nodes provide result values for the search, and a node is eliminated only if its presence would not affect the result value for the search. In another aspect, the invention features a method of conducting a two mode search of reduced length. For a first mode of the search, nodes along a search path are provided, at least some of the nodes including one or more pointers pointing to other nodes. A search argument comprising a series of search s gments is provided, som values of segments of th argument ccrresponding to nodes along the search path, some other values of the segments relating to a second mode of the search. Indicators associated with nodes are provided, each indicator indicating the segments corresponding to the second mode. The search path is searched by processing successive search segments by inspecting the indicator associated with each node, and proceeding to the second search mode if the indicator indicates that the segment relates to the second mode.
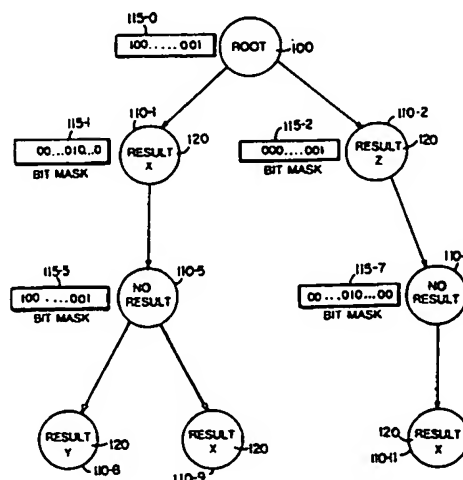
FIG.5

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	IEE PROCEEDINGS vol. 135, no. 1/E, January 1988, STEVENAGE, GB pages 55 - 59 P. WOLSTENHOLME : 'Filtering of network addresses in real time by sequential decoding' * the whole document *	1,10,12, 17,23, 25,26, 28,30,34	G06F15/419
A	FUTURE GENERATIONS COMPUTER SYSTEMS vol. 4, no. 2, September 1988, AMSTERDAM NL pages 81 - 93 J.J. GARCIA-LUNA-ACEVES : 'Routing Management in Very Large-Scale Networks' * page 84, column 1, line 22 - page 87, column 2, line 17 *	1,10,12, 17,23, 25,26, 28,31,34	
X	ACM TRANSACTIONS ON DATABASE SYSTEMS vol. 14, no. 1, March 1989, NEW YORK US pages 41 - 74 R. RAMESH ET AL : 'Variable-Depth Trie Index Optimization : Theory and Experimental Results' * page 42, line 1 - page 43, line 1; figure 1 *	17,23, 31,34	TECHNICAL FIELDS SEARCHED (Int. Cl.5) G06F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	10 DECEMBER 1992	FOURNIER C.D.J.